

What is Claimed is:

1. An antibody that recognizes a cell surface antigen of a target cariogenic bacterium chosen from an actinomyces and a lactobacillus species, wherein said antibody has high specificity and sensitivity for its target bacterium.
2. The antibody according to Claim 1, wherein said target bacterium is an actinomyces species bacterium.
- 10 3. The antibody according to Claim 2, wherein said actinomyces species is *Actinomyces naeslundii* genospecies 1.
4. The antibody according to Claim 3, wherein said antibody does not cross-react with *Actinomyces naeslundii* genospecies 2.
- 15 5. The antibody according to Claim 1, wherein said target bacterium is a lactobacillus species bacterium.
6. The antibody according to Claim 5, wherein said lactobacillus species is *Lactobacillus casei*.
- 20 7. The antibody according to any of the preceding claims, wherein said antibody is produced using a whole cell immunogen.
- 25 8. The antibody according to any of the preceding claims, wherein said antibody is a monoclonal antibody.
9. The antibody according to Claim 8, wherein said antibody is chosen from SWLA4 and SWLA5.
- 30 10. An antibody that binds to *Actinomyces naeslundii* with at least substantially the same sensitivity and specificity as SWLA4.

11. An antibody that binds to Lactobacillus casei with at least substantially the same sensitivity and specificity as SWLA5.

12. A binding fragment or mimetic thereof of an antibody according to any of the
5 preceding claims.

13. A method for detecting the presence of a cariogenic bacterium in a sample, said method comprising:

(a) contacting said sample with an antibody according to any of Claims 1
10 to 11 or a binding fragment or mimetic thereof; and
(b) detecting the presence of any resultant binding complex between said cariogenic bacterium and said antibody, binding fragment or mimetic thereof to detect the presence of said cariogenic bacterium in said sample.

15 14. The method according to Claim 13, wherein said sample is a physiological sample.

15. The method according to Claim 14, wherein said physiological sample is saliva.

20 16. The method according to Claim 14, wherein said physiological sample is dental plaque.

25 17. The method according to Claim 13, wherein said antibody, binding fragment or mimetic thereof is stably associated with a solid support.

18. A device for use in determining the presence of a cariogenic bacterium in a sample, said device comprising:

30 an antibody according to any of Claims 1 to 11 or binding fragment or mimetic thereof stably associated with the surface of a solid support.

19. A cell that secretes an antibody according to Claims 1 to 11.

20. The cell according to Claim 19, wherein said cell is a hybridoma cell.

21. A method of treating a host suffering from a condition resulting from the presence of cariogenic bacteria, said method comprising:

administering to said host an effective amount of an antibody according to Claims 1 to 11 or a binding fragment or mimetic thereof.

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22. The method according to Claim 21, wherein said antibody, binding fragment or mimetic thereof is conjugated to a therapeutically active agent.

10 23. A pharmaceutical preparation comprising an antibody according to Claims 1 to 11 or a binding fragment or mimetic thereof.

24. A kit for use in detecting the presence of a cariogenic bacterium in a sample, said kit comprising:

15 at least one antibody according to Claims 1 to 11, or a binding fragment or mimetic thereof; and

instructions for using said antibody to detect the presence of said cariogenic bacterium.

25. The kit according to Claim 24, wherein said kit comprises at least a first antibody that binds to an actinomyces bacterium and a second antibody that binds to a lactobacillus bacterium.

26. An antibody according to any of Claims 1 to 11 or a binding fragment or mimetic thereof conjugated to a detectable label.

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27. The antibody according to Claim 26, wherein said detectable label is a colloidal label.

30 28. The antibody according to Claim 26, wherein said detectable label is a latex bead.

29. The antibody according to Claim 26, wherein said detectable label is a fluorescent label.

30. A nucleic acid present in other than its natural environment that encodes an antibody according to Claims 1 to 11.